1. A fullerene molecule having one or more free thermal neutrons trapped within the cage-like structure of said fullerene molecule.

2. The fullerene molecule of claim 1 wherein said fullerene molecule contains greater than about 30 carbon atoms.

3. The fullerene molecule of claim 2 wherein said fullerene molecule contains about 60 to 70 carbon atoms.

4. The fullerene molecule of claim 1 wherein said neutrons are accelerated to elevated energy levels by accelerating the neutron-containing fullerene molecule.

5. The fullerene molecule of claim 4 wherein said neutron-containing fullerene is provided with an electrical charge and accelerated in a particle accelerator.

6. The fullerene molecule of claim 4 wherein said neutrons create a uniform beam of free thermal neutrons at a uniform energy.

7. The fullerene molecule of claim 1 wherein said neutrons are useful as an irradiation target for bombardment by other particles.

8. The fullerene molecule of claim 1 wherein said neutrons are capable of being released from said fullerene molecule by disassembling the fullerene molecule.

9. The fullerene molecule of claim 8 wherein said fullerene molecule is disassembled by a laser, an electric

field, magnetic field, non-coherent electromagnetic radiation, particle bombardment, pressurization, mechanical force, heat, chemical reaction, electric current, or any combination thereof.

10. The fullerene molecule of claim 8 wherein said neutrons are released from said fullerene molecule by impinging a beam of neutron-containing fullerenes on a metal foil or similar substance.

11. The fullerene molecule of claim 8 wherein said neutrons are released from said fullerene molecule at a location removed from a source of said neutrons.

12. The fullerene molecule of claim 1 wherein said neutrons decay into protons.

13. The fullerene molecule of claim 12 wherein the decay of said neutrons further emit beta radiation and antineutrinos.

14. The fullerene molecule of claim 1 wherein said neutrons transition into anti-neutrons via neutron/anti-neutron oscillation.

15. The fullerene molecule of claim 14 wherein the rate of neutron/antineutron transition is controlled by controlling the temperature of the fullerene.

16. The fullerene molecule of claim 13 wherein said anti-neutrons decay into anti-protons.

17. The fullerene molecule of claim 16 wherein the decay of said antineutrons further emit positrons and neutrinos.

18. The fullerene molecule of claim 1 wherein undecayed neutrons combine with protons to form deuterium, tritium or a mixture thereof.

19. A C_{70} fullerene molecule having one or more free thermal neutrons trapped within said fullerene molecule, wherein said neutrons are capable of being released from said fullerene molecule at a location removed from a source of said neutrons by disassembling the fullerene molecule using a laser, an electric field, magnetic field, non-coherent electromagnetic radiation, particle bombardment, pressurization, mechanical force, heat, chemical reaction, electric current, or any combination thereof.

20. A method for trapping and storing free thermal neutrons within a fullerene molecule comprising irradiating said fullerene molecule with a source of free thermal neutrons.

21. The method of claim 20 wherein said source of neutrons is uranium-235 or plutonium-239.

22. The method of claim 21 wherein said source of said neutrons is in a fission reaction.

23. The method of claim 22 wherein said fission reaction occurs in the core of a nuclear reactor.

24. The method of claim 20 wherein said source of free thermal neutrons comprises a target material capable of generating free thermal neutrons upon bombardment by a source of charged particles.

25. The method of claim 24 wherein said source of charged particles is a particle accelerator.

26. The method of claim 24 wherein said source of charged particle is a radionuclide.

27. The method of claim 20 wherein said fullerene molecule is irradiated for a period of time, at a neutron flux, and at a temperature effective to trap and store said free thermal neutrons within said fullerene molecule.

28. The method of claim 20 wherein the entrapment of said neutrons is enhanced by controlling the temperature of said fullerene.